

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006106**Date Inspected:** 24-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Chen Ying Xin, Mr. Liu Yong, Mr. Huang Zhang

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

**Tower Bay 10**

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of South Tower Skin Plate complete joint penetration welds SSD1-A164 E/J-126 and SSD1-A164 E/J-244. These welds join skin plate C to skin plate D and the welds had previously been ultrasonically rejected and weld repaired. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report and the photograph below.

The QA Inspector observed ZPMC welder Ms. Xu Xiushui, stencil 040489 using submerged arc welding procedure specification WPS-B-T-2221-B-U3L-S2 to make groove weld SSDI-FESA3-1AD-13B-(2). The QA Inspector observed Quality Control personnel measuring a welding current of approximately 680 amps, 32.0 volts and a welding travel speed of 580 mm per minute. The base material appears to be between 110°C and 230°C. Items observed by the QA Inspector appear to comply with project specifications.

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The QA Inspector observed ZPMC welder Ms. Xu Yan, stencil 052917 using submerged arc welding procedure specification WPS-B-T-2221-B-U3L-S2 to make groove weld SSDI-FESA3-1AD-22B. The QA Inspector observed Quality Control personnel had recorded a welding current of 670 amps, 31.6 volts and a welding travel speed of 560 mm per minute. Items observed by the QA Inspector appear to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Yang Guilong, stencil 068919 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make South Tower Lift 3 stiffener plate to tower skin plate A weld SSD1-FASA-1E/E-56A. The QA Inspector observed that the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel measuring Mr. Yang Guilong having a welding current of approximately 310 amps and 31.0 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Tong Xuan Qhang, stencil 067954 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make South Tower Lift 3 stiffener plate to tower skin plate A weld SSD1-FASA-1E/E-54A. The QA Inspector observed that the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel measuring Mr. Tong Xuan Qhang having a welding current of approximately 315 amps and 31.1 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Bi Kai, stencil 066477 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener plate to tower shear plate weld WDI-A28A/B-4B. The QA Inspector observed that the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel measuring Mr. Bi Kai having a welding current of approximately 320 amps and 30.0 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Mr. Zhou Yuanning, stencil 062814 is using welding procedure WPS-B-T-2213 to make a shielded metal arc fillet weld on shear link weld WDI-A467-18M-3. The QA Inspector observed ZPMC CWI Mr. Liu Yang had measured Mr. Zhou Yuanning to have a welding current of 181 amps and a welding travel speed of 120 mm per minute. The QA Inspector observed ZPMC has electrical heating elements and torches to preheat the base material adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications.

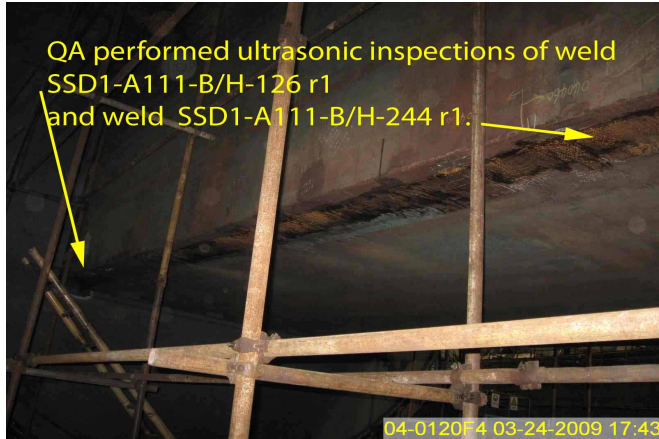
The QA Inspector observed ZPMC welder Mr. Wang Qixiang, stencil 062812 is using welding procedure WPS-B-T-2213 to make a shielded metal arc fillet weld on shear link weld WDI-A467-18M-3. The QA Inspector observed ZPMC CWI Mr. Liu Yang had measured Mr. Zhou Yuanning to have a welding current of 179 amps and a welding travel speed of 125 mm per minute. The QA Inspector observed ZPMC has electrical heating elements and torches to preheat the base material adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications.

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### Summary of Conversations:

See above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

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